UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
BATES, KEVIN T

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/496,990	YIP ET AL.
	Examiner	Art Unit
	Kevin Bates	2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 November 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-60</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-60</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Response to Amendment

This Office Action is in response to a communication made on November 10,

2005.

Claims 4, 16, 28, 40, and 52 have been amended.

Claims 1-60 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-60 is rejected under 35 U.S.C. 102(e) as being anticipated by Aboul-

Magd (6490249).

Regarding claims 1, 13, 25, 37, and 49, Aboul-Magd teaches an apparatus to

control connection admission for a connection request in a network (Abstract, lines 1 –

4), the apparatus comprising: a first estimator to estimate an equivalent cell rate (ECR)

(Column 3, lines 38 – 40; Column 4, lines 56 – 60) based on description of the

connection request (Column 1, lines 22 – 29), the description including a booking factor

(Column 9, lines 58 – 60; line 64; Column 10, lines 5 – 10; were the ECR/EBR

equations use overbooking and underbooking); a second estimator to estimate a

measured utilization factor for admitted connections the network using measurement of

data streams (Column 3, lines 38 – 40; Column 5, lines 1 – 17) arriving at queues

(Column 2, lines 41 – 42) and the booking factor (Column 6, lines 12 – 16; lines 31 – 35;

lines 53 – 55); and a controller coupled to the first and second estimators to generate an

admission decision for the connection request based on the estimated ECR and the

estimated measured utilization factor (Column 7, lines 30 – 58).

Regarding claims 2, 14, 26, 38, and 50, Aboul-Magd teaches the apparatus of

claims 1, 13, 25, 37, and 49, wherein the descriptor includes a connection descriptor

and a QoS descriptor (Column 2, lines 9 – 16).

Regarding claim 3, 15, 27, 39, and 51, Aboul-Magd teaches the apparatus of

claims 2, 14, 26, 38, and 50, wherein the connection descriptor includes: at least one of

a cell rate, a transport device speed, a queue depth, a cell loss ratio, and a link capacity

(Column 5, lines 65 – 67; Column 6, lines 13 – 16).

Regarding claims 4, 16, 28, 40, and 52, Aboul-Magd teaches the apparatus of

claims 3, 15, 27, 39, and 51, wherein the cell rate is one of a peak cell rate, a sustained

cell rate, a maximum burst size, and a minimum cell rate (Column 2, lines 26 – 31).

Regarding claims 5, 17, 29, 41, and 53, Aboul-Magd teaches the apparatus of

claims 4, 16, 28, 40, and 52, wherein the QoS descriptor is one of a constant bit rate, a

real-time variable bit rate, a non-real-time variable bit rate, an unspecified bit rate, an

available bit rate, and a guaranteed frame rate (Column 2, lines 26 – 31).

Regarding claims 6, 18, 30, 42, and 54, Aboul-Magd teaches the first estimator

comprises: a scale factor generator to provide a scale factor, the scale factor generator

comprising a look-up table having entries computed for the QoS descriptor, the entries

being indexed by the connection descriptor; and a scaler coupled to the scale factor

generator to scale the cell rate corresponding to the QoS using the scale factor, the

scaled cell rate corresponding to the estimated ECR (Column 5, lines 47 – 57; where

the CAC descriptors are considered map (look-up table) the admission request into one

of the bandwidth pool that based handles the needs to the CAC descriptor).

Regarding claims 7, 19, 31, 43, and 55, Aboul-Magd teaches the apparatus of

claims 6, 18, 30, 42, and 54, wherein the look-up table is one of a CBR look-up table

and a VBR look-up table, the CBR look-up table corresponding to the CBR, the VBR

look-up table corresponding to the VBR (Column 5, lines 47 – 57, where the second

case of bandwidth pooling involves mapping the service classes into separate

bandwidth pools and that classes are defined on Column 2, lines 26 – 31).

Regarding claims 8, 20, 32, 44, and 56, Aboul-Magd teaches the apparatus of

claims 7, 19, 31, 43, and 55, wherein the CBR look-up table is indexed by a cell rate

parameter and the transport device speed, the cell rate parameter being within a range

from unity to the PCR (Column 2, lines 26 – 31).

Regarding claims 9, 21, 33, 45, and 57, Aboul-Magd teaches the apparatus of

claims 8, 20, 32, 44, and 56, wherein the scale factor is one of the entries indexed by

the cell rate parameter and the transport device speed (Column 5, lines 47 – 49; where

the scale factor and mapping depends on classes and the classes depends on the CAC

criterion, a scaled/weighted calculation of cell rates and speeds and QoS information).

Regarding claims 10, 22, 34, 46, and 58, Aboul-Magd teaches the apparatus of claims 7, 19, 31, 43, and 55, wherein the VBR look-up table is indexed by a first ratio between the queue depth and the MBS and second ratio between the link capacity and the PCR (Column 2, lines 26 – 31).

Regarding claims 11, 23, 35, 45, and 59, Aboul-Magd teaches the apparatus of claims 10, 22, 34, 46, and 58, wherein the scale factor is a weighted value from entries nearest to an entry corresponding to the first and second ratios when there is no exact match with at least one of the first and second ratios (Column 6, lines 1 – 11, where the CAC criterion classify the connection (Column 5, lines 47 – 49, but there may be more classes being issued to the same bandwidth pool based QoS needs of each the classes).

Regarding claims 12, 24, 36, 48, and 60, Aboul-Magd teaches the apparatus of claims 1, 13, 25, 37, and 49, wherein the second estimator comprises: a capacity estimator to estimate a minimum resource needed for the admitted connections meeting quality of service requirements within the measurement window; and a measured utilization factor generator coupled to the capacity estimator to generate the measured utilization factor using the estimated minimum resource and measurement parameters (Column 5, lines 1 – 39).

Response to Arguments

Applicant's arguments filed 11-10-2005 have been fully considered but they are not persuasive.

Regarding claim 1, the applicant argues that the reference, Aboul-Magd, the

disclosed EBR is not the same as the applicant's ECR (equivalent cell rate) and that the

second estimator is not based on a measure utilization for admitted connections nor use

the booking factor. The examiner disagrees, in the claimed the invention, the ECR is an

estimation of a cell rate based on the description of the connection request, where the

description includes a booking factor. In the reference, Aboul-Magd defines the EBR

(equivalent bit rate) as a number based upon the setup information received at the

connection request, this information detailing the type of connection that will be needed,

such as QoS values, for this new connection so the system can calculate the estimated

required needs of this new connection in terms of the currently available resources in

the network. This shows that the EBR is the same thing as the claimed ECR because it

is based on both the setup request description and the booking factor (the QoS needs).

Also Aboul-Magd discloses a second estimator using the actual measurements for the

admitted connections including the booking factors as seen in Column 6, lines 17 – 59.

The second estimator is based on a the current network utilization of the pool, which is

the measurements of the traffic links, which is a measurement of the current traffic of

the connections in the network along the links that matter to the incoming connection

request, the number is based on the actual utilization of the connection, while still being

limited to just the link bandwidth, it is also based on the booking factor, whether being

over or under booking.

Regarding claim 6, the applicant argues that the reference, Aboul-Magd does not

disclose a scale factor to scale the cell rate. The examiner disagrees, as seen in

Column 5, lines 47 – 57, the reference discloses that the system uses the connection

description to classify the connection into a plurality of classes and using that class to

indicate the type of QoS factors that are going to be applied to that new connection,

basically scaling the connection into a more default category.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kevin Bates whose telephone number is (571) 272-

3980. The examiner can normally be reached on 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

KB

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December 28, 2005

SALEH NAJJAR
SUPERVISORY PATENT EXAMINER